

REMARKS

Applicant respectfully requests favorable reconsideration of this application, as amended.

Applicant notes with appreciation the indication of allowable subject matter with respect to Claims 2 and 9.

Claims 1, 4, 6, 8 and 10 have been amended for reasons not related to patentability, i.e., to improve grammar, punctuation, clarity, antecedence, etc. Additionally, Claim 13 has been added. Support for this claim may be found, for example, within the Specification at Page 22 (lines 2–19) and Figures 5, 6, etc. New Claims 14-19 also have been added to recite additional aspects of the invention. Support for these claims may be found, for example, within the Specification at Page 21 (lines 25) to Page 22 (line 24). No new matter has been introduced. Thus, Claims 1–10 and 13-19 are pending.

Claims 1, 4, 8 and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kai (U.S. 4,490,830; newly cited). Claims 3 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kai, and Claims 6 and 7 were rejected as being unpatentable over Kai in view of Solondz (US 6,259,730). Applicant respectfully traverses the merits of the rejections.

Claims 1, 4 and 6 are directed to a radio system, while Claims 8 and 10 are directed to a transmitter and recite similar respective subject matter. Applicant respectfully submits that none of the cited references, taken either singly or in combination, teaches or suggests all of the features recited by these claims.

Claims 1 and 8 Are Allowable Over Kai

Kai discloses a radio signal transmission system in which two base stations transmit a common data signal using two carrier waves having the same frequency. The data signal is frequency or phase modulated, and one of the data signals is delayed prior to transmission in order to provide a relative phase difference between the two transmitted signals. *See, e.g.,* Abstract.

Kai fails to teach or suggest that signals transmitted from an antenna of one transmitter are delayed an arbitrary delay time and an output power, which is different from at least one delay output power in the other transmitters, is set, as recited by Claims 1 and 8. Instead, Kai merely discloses that “first and second transmitters transmits [sic] a common signal with first

and second carrier waves of substantially identical frequency in respective radio zones" (Col. 1:56–59). Transmitter output power is simply not discussed. Consequently, Kai fails to teach or suggest all of the features recited by Claims 1 and 8. Moreover, none of the remaining references cures the deficiencies of Kai.

Claims 4 and 10 Are Allowable Over Kai

Kai fails to teach or suggest that signals supplied to respective antennas are obtained by differently delaying modulated signals and carrying out weighting synthesization on the signals, where at least one of a delay amount and a weighting factor is set to a value different from the other transmitters, as recited by Claims 4 and 10. To the contrary, Kai's transmission diversity system includes two base stations, only one of which includes a delay circuit 70, which "is constructed to delay the input to the station 2 by a phase Ψ with respect to the input to station 1" (Col. 3:60 to Col. 4:2). In other words, Kai's diversity system only provides a relative phase delay between a pair of base stations. Furthermore, Kai does not perform weighting synthesization on either signal transmitted by base station 1 or 2. Instead, Kai discloses that modulator 11 either frequency modulates an intermediate frequency with the signal, or phase modulates the signal. *See, e.g.,* Col. 4:3–11. Consequently, Kai fails to teach or suggest all of the features recited by Claims 4 and 10. Moreover, none of the remaining references cures the deficiencies of Kai.

Claims 6 and 13 Are Allowable Over Kai in view of Solondz

Kai fails to teach or suggest a radio communication system that includes a plurality of transmitters and a receiver, wherein each transmitter has a plurality of antennas for transmitting identical signals with the same frequency band, the signals supplied to the plurality of antennas are obtained by differently delaying modulated signals and carrying out amplitude regulation on the signals, and at least one of a delay amount and a value of amplitude regulation is set to different values in each of the transmitters, as recited by claim 6.

Further, Kai fails to teach or suggest a transmitter for use with a plurality of transmitters that transmit the same signals with the same frequency band, which includes a modulator, a signal filtering section coupled to the modulator, to delay the modulated signals, to amplitude regulate the delayed signals and to synthesize the regulated signals with the modulated signals, and at least one antenna coupled to the signal filtering section, to transmit the synthesized

signals to a receiver, wherein at least one of a delay amount and an amplitude regulation value is set differently than respective values in the plurality of transmitters, as recited in claim 13.

As noted above, Kai's diversity system only provides a relative phase delay between a pair of base stations. Furthermore, Kai does not perform amplitude regulation on either signal transmitted by base station 1 or 2. Rather, as noted above, Kai's modulator 11 either frequency modulates an intermediate frequency with the signal or phase modulates the signal. Amplitude modulation is simply not disclosed. The Office Action apparently agrees, and cites Solondz in support.¹

Solondz discloses base stations 30 that have a transmitter with a non-delayed signal path and "N" delayed signal paths, where each of the delayed signal paths includes a delay element 32N and an amplifier 33N. Solondz fails to disclose that the value of the amplifying is different among amplifiers 330, 331, ... 33N. *See*, e.g., Col. 4:8-57; FIG. 6. That is, the value of amplitude regulation (gain) is the same for each path. Consequently, Solondz fails to cure the deficiencies of Kai. Moreover, none of the remaining references teaches or suggests these features.

Conclusion

Accordingly, Claims 1, 4, 6, 8, 10 and 13 are allowable over the cited references. Claim 3, depending from Claim 1, and Claims 5 and 7, depending from Claim 4, are also allowable, at least for the reasons discussed above.

In view of the remarks presented herein, Applicant respectfully submits that this application is in condition for allowance and should now be passed to issue.

A Notice of Allowance is respectfully solicited.

If any extension of time is required in connection with the filing of this paper and has not been requested separately, such extension is hereby requested.

¹ *See*, Office Action at Page 5.

The Commissioner is hereby authorized to charge any fees and to credit any overpayments that may be required by this paper under 37 C.F.R. §§ 1.16 and 1.17 to Deposit Account No. 02-2135.

Respectfully submitted,

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